

**REMARKS**

Claims 43-68 and 70 are pending. In the Final Office Action mailed August 30, 2005, the Examiner rejected Claims 43-68 and 70 under 35 U.S.C. §103(a). Each rejection is addressed below.

**I. Rejection of Claims 43-52, 54-57, 59-68 and 70 Under 35 U.S.C. §103(a)**

Claims 43-52, 54-57, 59-68 and 70 are rejected under 35 U.S.C. §103(a) as being unpatentable over WO 00/72114 (hereinafter, "the Carden patent") in view of U.S. Patent No. 6,349,296 (hereinafter, "the Broder patent"). The Examiner makes the following admission:

*Carden fails to expressly disclose:*

- *Wherein said originality checking application includes rules for:*
  - *Obtaining, **fingerprinting**, and storing on a database relevant documents from a variety of sources which might be copied*
  - ***Fingerprinting** uploaded papers to be checked for originality*
  - ***Comparing a fingerprint of a paper to fingerprints of relevant documents to identify possible matches***
  - *Comparing said paper's **full text to a full text** of all said possible matches,*
  - *Generating an originality report which highlights those portions of the paper which match portions of said relevant documents identified as possible matches; wherein said originality report further comprises a report of the level of duplication between said paper's full text and said full text of said possible matches*

Office Action, page 3. The Examiner alleges that the Broder patent teaches what the Carden patent fails to disclose:

Broder teaches the process of digital fingerprinting of entire documents by breaking the document into a series of tokens called Shingles. A shingle is a contiguous set of tokens that specifically identify the document and a relation to other documents to form a set of fingerprints. The fingerprints represent a sketch of a document a good estimate regarding the resemblance can be used to form a basic level to a very-high level of resemblance can be used while filtering the documents (Broder column 4, lines 17-25 and 65-67 and

column 5, lines 1-5 and 34-55 and column 11, lines 55-65). Broder also teaches the output of a result by showing the ordered pair list where all of the documents with the shared shingle will be presented and where the level of resemblance is tracked and displayed in the track. Broder also teaches the storing or storage of over 100 million documents in the search engine, which is a database of searchable content (Broder column 12, lines 1-5) that can accept a new document for storage and allow the resemblance checking to occur.”

Office Action, pages 3-4. The Examiner concludes:

“It would have been obvious to one of ordinary skill in the art, having the teachings of Carden and Broder before him at the time of the invention was made, to modify the system of Carden to incorporate the resemblance checking and result output as taught by Broder, in order to obtain a system that is able to incorporate a plagiarism checking mechanism along with an author submissions of new or existing documents. One would have been motivated to make such a combination because of the expressed teaching of Broder to use the technique by authors to detect copies of their work or even to detect minor changes or even in licensing terms (see column 12, lines 15-3) and Carden is a system used by authors to submit bodies of work to their peers for review.”

Office Action, page 4.

The Applicants respectfully disagree with the Examiner’s obviousness rejections. The combination of references referred to by the Examiner fails to provide a *prima facie* showing of obviousness as required by § 2143 of the Manual of Patent Examining Procedure (MPEP). There are three criteria that must be met to provide *prima facie* obviousness. The first of these criteria is a suggestion or motivation in the references or the knowledge generally available to combine the reference teachings. The second criterion is that the prior art must teach or suggest all the claim limitations. The third criteria is a reasonable expectation of success should the combination be carried out.

**A. The Combination of Carden and Broder Fails To Teach “comparing said paper’s full text to a full text of all said possible matches”**

A required element of Claim 43 is, for example, an originality checking application including rules for comparing a paper’s full text with the full text of a paper identified as a possible match. As noted above, the Examiner admits that the Carden patent does not teach or describe an originality checking application as required in Claim 43.

Despite the Examiner’s characterization, the Broder patent does not teach an originality checking application including rules for *comparing a paper’s full text* with the *full text* of a paper identified as a possible match, as required in Claim 43. In particular, the Broder patent only describes methods for comparing a *portion* (e.g., fingerprint, token, shingle) of a data set (e.g., web page) with a portion (e.g., shingle) of a data set identified as a potential match. Full text comparisons are not described and, in fact, are exactly contrary to the methods of the Broder patent. The Broder patent specifically teaches away from utilizing the full text of a data set in determining resemblance with another data set. Indeed, the very structure of the Broder patent’s techniques is to avoid making such a comparison. The purpose of the Broder patent is to find web pages that share some level of similarity so that they can be grouped together. Searches for exact matches are specifically excluded as being contrary to the method and an undesired time sink. The whole purpose and structure of the Broder patent’s technology is to look for some minimum amount of similarity so as to find related web pages, but to explicitly avoid comprehensive comparisons (such as full text comparisons) so as to permit the review of millions of web pages in a reasonable amount of time. Full text review of web pages would sabotage the function of the Broder patent in terms of timeliness, while also providing no benefit.

As such, in determining resemblance between data sets, the Broder patent does not teach a comparison between the full text of each data set, but rather a comparison between “sketches” of each data set. Furthermore, the Broder patent teaches, “frequent occurring shingles can be eliminated,” (Column 2, lines 63-64) “the shingles are first reduced to unique identifications and common shingles are ignored,” (Column 4, lines 19-21) and “processing can be reduced when common shingles are ignored” (Column 10,

lines 17-19). As such, the Broder patent does not teach an originality checking application including rules for *comparing a paper's full text* with the *full text* of a paper identified as a possible match, as required in Claim 43. Combining the method of the Broder patent with the Carden patent thus does not provide an originality algorithm that carries out full text searches. Furthermore, the fingerprinting techniques of the Broder patent, if applied to the Carden patent, do not generate information compatible with the other aspects of the claims (identifying the level of duplication; see below).

The Examiner states, "Broder teaches that any desired level of resemblance from a basic level to a very-high level of resemblance can be used while filtering the documents (Broder column 4, lines 17-25 and 65-67 and column 5, lines 1-5 and 34-55 and column 11, lines 55-65)." Office Action, page 3. Each citation provided, however, refers to the use of (and requirement of) incomplete portions for determining the existence of resemblance.

Neither the Carden nor Broder patents, alone or in combination, teach an originality checking application including rules for *comparing a paper's full text* with the *full text* of a paper identified as a possible match, as required in Claim 43. Thus, the cited references do not provide all of the elements of the presently claimed invention. The Examiner has not pointed to any teaching in either reference that provides this element. The Applicants request these rejections be withdrawn.

**B. The Combination of Carden and Broder Fails To Teach "generating an originality report...wherein said originality report further comprises a report of the level of duplication between said paper's full text and said full text of said possible matches"**

A required element of Claim 43 is the generation of an originality report...wherein said originality report comprises a report of the level of duplication between said paper's full text and said full text of said possible matches." As noted above, the Examiner admits that the Carden patent does not teach or describe an originality checking application as required in Claim 43. As discussed in section IA, the Broder patent determines resemblance between data sets through analysis of "portions" – not an analysis of the full text for each data set. Likewise, the Broder patent technique looks for the existence of, but not the degree of, similarity. As the Broder patent does not

determine resemblance between data sets with the full text of each data set, the Broder patent does not and cannot teach the generation of an originality report on the level of duplication between a paper's full text and the full text of possible matches. The fact that the Broder patent's algorithms eliminate frequently occurring shingles and eliminate entirely close matching documents (e.g., those greater than 97% identical), the Broder patent method, when combined with the Carden patent, is contrary to methods where the level of duplication is to be determined and reported.

**C. There is No Motivation to Combine the Broder Patent with the Carden Patent**

One would not be motivated to combine the Broder patent with the Carden patent in the manner suggested by the Examiner. The cited references do not acknowledge or make reference to the need or desire of persons in the art to use a system for reviewing papers with an originality checking application involving a full text comparison between papers and generating an originality report based upon the full text comparison between papers. Likewise, the cited references do not allude to a need or desire of persons in the art to generate a system with an originality checking application configured to conduct a full text comparison between papers and generate an originality report based on the full text comparison. Therefore, a person of ordinary skill in the art, in view of the cited references, would not have been motivated to combine the Broder patent with the Carden patent in the manner suggested by the Examiner to arrive at the present invention. This is particularly true considering the fact that the Broder patent's techniques are contrary to the purpose and function of the claimed invention, as described in section IB above.

To support the rejection, the Examiner has asserted that "One would have been motivated to make such a combination because of the expressed teaching of Broder to use the technique by authors to detect copies of their work or even to detect minor changes or even in licensing terms (see column 12, lines 15-3) and Carden is a system used by authors to submit bodies of work to their peers for review." Office Action, page 3. The Applicants first note that the Examiner is simplifying the claimed invention. Claim 43 requires a full text comparison between a paper and a paper identified as a potential match and the generation of an originality report based upon the full text comparison

analysis to report on the degree of similarity. The passage cited by the Examiner in the Broder patent, however, only describes *detection* of similarity (and not the degree of), based upon a comparison of portions of data sets, and no subsequent analysis of the full data sets. As such, the Examiner's support for the motivation to combine the Carden and Broder patents fails.

Considering that the cited references do not teach or suggest a system comprising an originality checking application configured to conduct a full text comparison between papers and generate an originality report based on the full text comparison, one skilled in the art would not be motivated to combine the Broder patent with the Carden patent in the manner suggested by the Examiner. The Applicants request these rejections be withdrawn.

## **II. Rejection of Claims 53 and 58 Under 35 U.S.C. §103(a)**


The Examiner rejects dependent Claims 53 and 58 under 35 U.S.C. §103(a) as being unpatentable over the Carden patent in view of US Patent No. 6,029,167 (hereinafter, "the Evans patent"), and further in view of E. Gehringer et al., 2000, ASEE/IEEE Frontiers in Education Conference, Session F1B, pages 2-7 (hereinafter, "the Gehringer reference"). Claims 53 and 58 are dependent upon non-obvious and non-anticipated Claim 43. As discussed in Sections I of this Office Action Response, the Carden patent fail to teach all of the required elements within Claim 43. The other cited references do not remedy this deficiency. As such, a *prima facie* case of obviousness has not been established. The Applicants request these rejections be withdrawn.

**CONCLUSION**

If a telephone interview would aid in the prosecution of this application, the Examiner is encouraged to call the undersigned collect at (608) 218-6900.

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